AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A time-series data processing device, comprising:

image-pick up means for picking up a specific object;

data processing means for generating a data list indicating, in time series, a temporal transition of a position and a state of said object picked up by said image-pick up means, with respect to a time;

animating means for animating said transition of said position and said state of said object in accordance with said data list; and

display means for displaying at least one of said data list generated by said data processing means and said image animated by said animating means,

wherein the display means is operable to display said data list and said animated image.

2. (previously presented): A time-series data processing device according to claim 1, wherein said data processing means is configured to display synchronously on said display means each corresponding image by linking an image of said object, which is picked up by said image-pick up means, in accordance with said data list generated, when said display means display said image of said object animated by animating means.

3. (original): A time-series data processing device according to claim 2, wherein said data processing means is configured to perform at least one kind of data analysis, by linking an image animated by said animating means, in accordance with said data list generated.

4. (previously presented): A time-series data processing device according to claim 1, wherein said specific object comprises a tool used by players in a sports game.

5. (previously presented): A time-series data processing device according to claim 4, wherein said sports game is soccer, and said tool is a soccer ball.

6. (currently amended): A time-series data processing device, comprising:

data processing means for generating image data by picking up an image of a sports game, for processing said picked-up image data generated in accordance with a predetermined format, and for storing said processed image data in said predetermined format;

interface means connected to said data processing means comprising an instruction entering means for entering a plurality of instructions, said interface means also receives said processed image data in said predetermined format from said data processing means, converts said processed image data into one of a-predetermined forms form in accordance with-based on an entered instruction which is a selection of one of the predetermined forms, and outputs said converted data in accordance with said entered instruction; and

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image displaying means connected to said interface means for displaying on a screen said

outputted data from said interface means,

wherein <u>said predetermined forms comprise a chart, a numerical list, an image, and a</u>

<u>video, and wherein</u> said interface means is operable to convert said processed <u>image</u> data into

each of a chart, a numerical list, an image, and a video.

7. (original): A time-series data processing device according to claim 6, wherein said

interface means is configured to enable said image displaying means to display a play list or a

graph that is indicative of a desired analytical result in response to a kind of said instruction.

8. (previously presented): A time-series data processing device, comprising:

data processing means for generating image data by picking up an image of a sports

game, for processing said image data generated in accordance with a predetermined format, and

for storing said processed data in said predetermined format;

interface means connected to said data processing means comprising an instruction

entering means for entering a plurality of instructions, said interface means receives said

processed data in said predetermined format, converts said processed data into a predetermined

form in accordance with an entered instruction, and outputs said converted data in accordance

with said entered instruction; and

image displaying means connected to said interface means for displaying on a screen said

outputted data from said interface means,

wherein said instruction entering means comprise:

a main instruction entering level for performing a plurality of different kinds of analyses; and

a common instruction entering level to be utilized commonly for said plurality of different kinds of analyses.

9. (previously presented): A time-series data processing device according to claim 8, wherein said common instruction entering level is configured to enter at least one related item with respect to a sports game subject to an analysis.

10. (previously presented): A time-series data processing device according to claim 8, wherein said main instruction entering level is configured to select an analysis of data or an analysis of formation regarding a sports game subject to an analysis, as one of said plurality of different kinds of analyses.

11. (previously presented): A time-series data processing device according to claim 9, wherein said related item comprises at least one of a player, a team, weather, a stadium of a game, a date of a game, a starting time of a game, and a number of spectators of a game.

12. - 14. (canceled).

15. (previously presented): A method of processing data in time-series, comprising:

imaging a specific object;

generating a data list indicating, in time series, a temporal transition of a position and a state of said object, with respect to a time;

animating said transition of said position and said state of said object in accordance with said data list; and

displaying at least one of said generated data list and said animated image,

wherein the display means is operable to display said data list and said animated image.

16. (previously presented): A method of processing data in time-series according to claim 15, further comprising the step of displaying synchronously each corresponding image by linking an image of said object, which is imaged in accordance with said generated data list, when displaying said animated image of said object.

17. (previously presented): A method of processing data in time-series according to claim 16, further comprising the step of performing at least one kind of data analysis, by linking an animated image, in accordance with said generated data list.

18. (previously presented): A method of processing data in time series according to claim 15, wherein said specific object comprises a tool used for players in a sports game.

19. (previously presented): A method of processing data in time-series according to claim 15, wherein said sports game is soccer, and said tool is a soccer ball.

20. (currently amended): A method of processing data in time-series, comprising:

generating image data by ~~imaging~~ visually recording a sports game;

processing said generated image data in accordance with a predetermined format;

storing said processed data in said predetermined format;

entering a plurality of instructions;

converting said processed data into a predetermined form in accordance with said entered instructions; and

displaying said converted data,

wherein when said entered instruction is a first type of instruction, said processed image data that is the image data generated from visually recording the sports game, is converted into a graph, when said entered instruction is a second type of instruction, said processed image data is converted into a chart, when said entered instruction is a third type of instruction, said processed image data is converted into a list, when said entered instruction is a fourth type of instruction, said processed image data is converted into an image or a video.

21. (previously presented): A method of processing data in time-series according to claim 20, further comprising the step of displaying a play list or a graph that is indicative of a desired analytical result in response to the type of said instruction.

22. (currently amended): A method of processing data in time-series, comprising:

generating image data by ~~imaging~~ visually recording a sports game;

processing said generated image data in accordance with a predetermined format;

storing said processed data in said predetermined format;

entering a plurality of instructions;

converting said processed data into a predetermined form in accordance with said entered instructions; and

displaying said converted data,

wherein said step of converting said data processed in said predetermined format into said predetermined form in accordance with said instruction comprises entering at least one related item with respect to a sports game subject to an analysis, which is utilized commonly in said plurality of different kinds of analyses by entering a common instruction,

wherein said image data, which is the image data generated from visually recording the sports game and processed in said predetermined format, is converted into numeric data for said plurality of different kinds of analyses, and wherein based on a kind of analysis, the converted data is displayed in a form of a numeric list, a chart, a graph, an image, and a video.

23. (previously presented): A method of processing data in time-series according to claim 22, wherein said related item includes at least one of a player, a team, weather, a stadium of a game, a date of a game, a starting time of a game, and a number of spectators of a game.

24. (previously presented): A method of processing data in time-series according to

claim 22, wherein said step of converting said data processed in said predetermined format into

said predetermined form in accordance with said instruction comprises selecting an analysis of

data or an analysis of formation regarding a sports game subject to an analysis by main

instruction entering.

25. - 27. (canceled).

28. (currently amended): A method of processing data in time-series, comprising:

~~imaging~~ recording temporal image data of a specific object;

generating a data list from the recorded temporal image data of the specific object, said

data list comprising position coordinates of said object and flags indicating a state of said object

at a plurality of points in time;

analyzing said data list based on instruction from a user to determine desired output; and

displaying said desired output in a desired format chosen from a plurality of formats, said

plurality of formats comprise a chart, a graph, a numeric list, and a video.

29. (currently amended): A method of processing data in time-series, comprising:

recording temporal image data of ~~imaging~~ a specific object;

generating <u>from said temporal image data of the specific object</u> a data list, said data list

comprising position coordinates of said object and flags indicating a state of said object at a

plurality of points in time;

analyzing said data list based on instruction from a user to determine desired output; and

displaying said desired output,

wherein said position coordinates of said data list are analyzed to determine speed of said

object.

30. (previously presented): The method of processing data in time-series according to

claim 29, wherein said object is at least one of a sports game player and a ball.

31. (previously presented): The method of processing data in time-series according to

claim 28, wherein said object is a player and said state of said object comprises at least one of a

play, pass, dribble and shoot.

32. (previously presented): The method of processing data in time-series according to

claim 28, wherein said object is a team and said state of said object comprises at least one of a

team formation and ball possession.

33. (previously presented): The method of processing data in time-series according to claim 28, wherein said desired output comprises a numerical list having at least one numerical value for each flag indicating state of said object.

34. (previously presented): The method of processing data in time-series according to claim 20, wherein said converted data is displayed at an angle selected by a user.

35. (previously presented): A time-series data processing device, comprising:

data processing means for generating image data by picking up an image of a sports game, for processing said generated image data in accordance with a predetermined format, and for storing said processed data in said predetermined format;

interface means connected to said data processing means comprising, an instruction entering means for entering a plurality of instructions, said interface means inputs said processed data in said predetermined format, converts said inputted data into a predetermined form in accordance with an entered instruction, and outputs said converted data in accordance with said entered instruction; and

image displaying means connected to said interface means for displaying on a screen said outputted data from said interface means,

wherein said predetermined form comprises at least one of a chart, a numerical list, an image and a video,

wherein said instruction entering means comprise:

a main instruction entering level for performing a plurality of different kinds of analyses; and

a common instruction entering level to be utilized commonly for said plurality of different kinds of analyses,

wherein said common instruction entering level is configured to enter at least one related item with respect to a sports game subject to an analysis,

wherein said related item comprises at least one of a player, a team, weather, a stadium of a game, a date of a game, a starting time of a game, and a number of spectators of a game, and

wherein said interface means comprises functions of displaying all plays of an opponent teams at said sports game as a list in accordance with said play list, and of retrieving a desirable play seen at said sports game by designating an optional item of said play list.

36. (previously presented): A time-series data processing device according to claim 35, wherein said interface means further comprises a function of linking one analysis to other analysis in accordance with said play list.

37. (previously presented): A time-series data processing device, comprising:

data processing means for generating image data by picking up an image of a sports game, for processing said generated image data in accordance with a predetermined format, and for storing said processed data in said predetermined format;

interface means connected to said data processing means comprising, an instruction

entering means for entering a plurality of instructions, said interface means recieves said

processed data in said predetermined format, converts said received data into a predetermined

form in accordance with an entered instruction, and outputs said converted data in accordance

with said entered instruction; and

image displaying means connected to said interface means for displaying on a screen said

outputted data from said interface means,

wherein said predetermined form comprises at least one of a chart, a numerical list, an

image and a video,

wherein said interface means is configured to enable said image displaying means to

display a play list or a graph that is indicative of a desired analytical result in response to a kind

of said instruction, and

wherein said interface means is capable of enabling said display means to display

simultaneously an animation based on said data converted into said predetermined form in

accordance with said play list, and an image of a sports game based on said image data

corresponding to said animation, and of editing a video of said sports game while analyzing data

of said sports game.

38. (currently amended): A method of processing data in time-series, comprising the

steps of:

generating image data by imaging visually recording a sports game;

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processing said generated image data in accordance with a predetermined format;

storing said processed data in said predetermined format;

entering a plurality of instructions;

converting said processed data into a predetermined form in accordance with said entered

instructions;

displaying said converted data;

displaying a play list or a graph that is indicative of a desired analytical result in response

to a kind of said instruction;

displaying all plays of an opponent teams at said sports game as a list in accordance with

said play list; and

retrieving a desirable play seen at said sports game by designating an optional item of

said play list,

wherein said converting is operable to convert said processed data, which is the image

data generated from visually recording the sports game, into the predetermined form of a

plurality of predetermined forms comprising a graph, a chart, a diagram, a list, an image, and a

video.

39. (previously presented): A method of processing data in time-series according to

claim 38, further comprising the step of linking one analysis to other analysis in accordance with

said play list.

40. (previously presented): A method of processing data in time-series according to

claim 39, further comprising the steps of:

displaying simultaneously an animation based on said data converted into said

predetermined form in accordance with said play list, and an image of a sports game based on

said image data corresponding to said animation; and

editing a video of said sports game while analyzing data of said sports game.

41. (currently amended): The time-series data processing device according to claim 1,

wherein the time-series data processing device performs numerical analysis of said specific

~~picked-up~~ object picked-up by said image-pick up means, and wherein, based on ~~said generated~~

~~data list~~ the numerical analysis, ~~and displays~~ results are displayed ~~of said numerical analysis~~ in a

form of a graph or a chart, wherein said picked-up specific object is video data of at least a

portion of a sports game.

42. (previously presented): The time-series data processing device according to claim 1,

wherein the time-series data processing device performs numerical analysis of said specific

picked-up object, wherein said specific picked-up object is a sports team, and wherein the time-

series data processing devices perform numerical analysis of the sports team formation based on

open spaces on a game field.

43. (new): The time-series data processing device according to claim 1, wherein the time-series data processing device performs numerical analysis of said specific picked-up object, and wherein, based on said numerical analysis, formation and positioning of a team as a whole during a sports game is determined.

44. (new): The time-series data processing device according to claim 1, wherein the time-series data processing device performs numerical analysis of said specific picked-up object, and wherein, based on said numerical analysis, formation and positioning, during a sports game, of said specific picked-up object is determined.